

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000543**Date Inspected:** 28-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** Ye Yong Jun**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** 114 A and 77 E**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present to observe the welding of the Caltrans Mock-up #77.00 and #114.00, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Caltrans QA Inspector observed ZPMC shop personnel performing Shielded Metal Arc Welding (SMAW) welding at Mock-up #114.00 Skin Plate E sub assembly MA109 longitudinal stiffener tack welds. ZPMC QC inspector Mr. Ye Yong Yun stated, tack welding was being performed in accordance with WPS-345-FCAW-1G (1F). QA Inspector Viars observed welding operations of #77.00 Mock-up Skin SUB ASSEMBLY MA1 weld # 4 repair weld. Flux Cored Arc Welding (FCAW) was performed in the 2G position by ZPMC welder Mr. Zhang Binghua in accordance to WPS-345-FCAW-1G (1F) Repair-1.

Caltrans QA Viars observed Mock-up # 114.00 Skin A sub assembly MA106 completed repair welding prior to grinding. The following observations of the repair welds are as follows. Weld # 5 had a weld bead run perpendicular to the normal welding direction at the end of the weld which would appear to make a portion of the repair in the 3G position. On repair welding of weld # 7 the termination of the welding was noted at the edge of the plate. Please see the following digital pictures below for more detail.

Caltrans QA Inspector observed ZPMC QC Certified Welding Inspector, Mr. Ye Yong Jun monitoring welding operations of Mock-up # 77.00 Skin E sub assembly MA1 longitudinal stiffener plate repair of weld # 4. QA inspector Viars observed ZPMC welder Zhang Binghua performing cleaning with a chipping hammer and wire brush. Between each pass. QA inspector Viars recorded the following welding variables of # 77.00 Mock-up Skin E sub assembly MA5 repair weld # 4. Amperage 297, Voltage 30 with a travel speed of 300 mm/min and a heat

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input of 1.78 kJ/mm.

The Caltrans QA Inspector monitored welding operations of # 77.00 Skin E. Caltrans QA Inspector observed that the welding operations appeared to be in general conformance with AWS D1.5 2002 requirements.



Summary of Conversations:

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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| Inspected By: | Viars,Larry | Quality Assurance Inspector |
| Reviewed By: | Cuellar,Robert | QA Reviewer |
